

LIQUIMEGA Liquicaps: The superfood for our health

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ABSTRACT

The immense amount of nutrients present in LIQUIMEGA Liquicaps include essential fatty acids, dietary fibre, antioxidants, protein, lignans which offer to lower the risk of life style disorders.

Omega-3,6,9 fatty acids are considered as essential fatty acids. They are necessary for human health but the body can't make them. Research shows that omega-3,6,9 fatty acids reduce inflammation and may help lower risk of chronic diseases such as heart disease, cancer, arthritis etc Omega-3,6,9 fatty acids are highly concentrated in the brain and appear to be important for cognitive (brain memory and performance) and behavioral function. In fact, infants who do not get enough omega-3,6,9 fatty acids from their mothers during pregnancy are at risk for developing vision and nerve problems. Symptoms of omega-3,6,9 fatty acid deficiency include fatigue, poor memory, dry skin, heart problems, mood swings or depression, and poor circulation. based on these facts A Super food Liquimega liquicaps has been Developed by R&D Centre, Lactonova Nutripharm (P) Ltd, HYDERABAD. The present paper emphasizes the role of Liquimega liquicaps for overall human health.

INTRODUCTION

Table 1: Nutritional Information about Flaxseed

Principle	Nutrient Value	% of RDA
Energy	534 Kcal	27%
Carbohydrates	28.8 g	22%
Protein	18.3 g	32.5%
Total Fat	42.16 g	170%
Cholesterol	0 mg	0%
Dietary Fibre	27.3 g	68%
Vitamins		
Folates	87 mcg	22%
Niacin	3.08 mg	19%
Pyridoxine	0.473 mg	36%
Riboflavin	0.161 mg	12%
Thiamin	1.64 mg	137%
Vitamin A	0 IU	0%
Vitamin C	0.6 mg	1%
Vitamin E	19.95 mg	133%
Vitamin K	4.3 mcg	3.5%
Electrolytes		
Sodium	30 mg	2%
Potassium	813 mg	17%
Minerals		
Calcium	255 mg	22.5%
Copper	1.12 mg	124%
Iron	5.73 mg	72%
Magnesium	392 mg	98%
Manganese	2.48 mg	108%
Zinc	4.34 mg	39%
Phyto-nutrients		
Carotene-β	0 mcg	--
Lutein zeaxanthin	651 mcg	--

Source: USDA National Nutrient data base

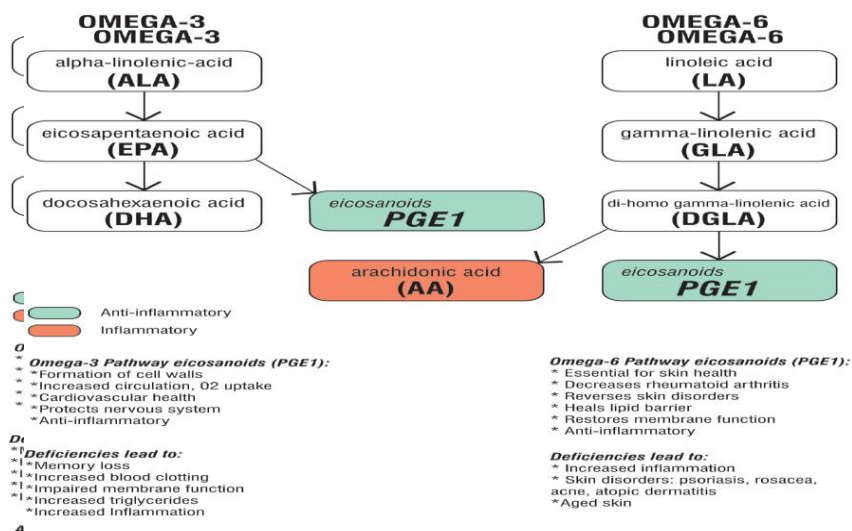
Table 1 shows the nutritional information of flaxseed is sufficient to meet the daily intake. Flaxseed contains protein (23.4%), lipids (45.2%) and mineral (3.5%) which are nutritionally very important. Lipid flaxseed composition makes it an important source of $\omega 3$ fatty acids, especially ALA which constitute up to 52 percent of the total fatty acid. Hence, it is considered as a functional food or source of functional ingredients. Flax protein is relatively rich in arginine, aspartic acid and glutamic

acid, and the limiting amino acids are lysine, methionine and cysteine. Flaxseed contains highest amounts of lignans and secoisolariciresinol diglucoside (SDG) which also provides additional health benefits. Flaxseed contains total fibre around 25 to 28 percent - and major fibre fractions are cellulose, mucilage gums, and lignin. These may prevent or reduce the risk of various diseases, such as diabetes, lupus nephritis, arteriosclerosis and hormone dependent types of cancer.

Composition of Liquimega liquicaps

Supplement Facts	
Serving Size : 1 Veg Liqui Capsule	Servings per container : 90
Each veg liqui capsule contains :	
Omega-3, Omega-6, Omega-9, Essential Fatty Acids	
Derived from FLAX SEED OIL	500mg
(Alpha Linolenic Acid, Linoleic Acid, Oleic Acid).	

METABOLISM



Liquimega in Veg Liquicaps Form Offers Higher :-

Absorption Rate

Dosage Accuracy

Bioavailability

Mechanism of action of LIQUIMEGA LIQUICAPS

Omega-3,6,9 fatty acids are considered as essential fatty acids: They are necessary for human health but the body can't make them. Research shows that omega-3 fatty acids reduce inflammation and may help lower risk of chronic diseases such as heart disease, cancer, and arthritis. Omega-3,6,9 fatty acids are highly concentrated in the brain and appear to be important for cognitive (brain memory and performance) and behavioral function. In fact, infants who do not get enough omega-3,6,9 fatty acids from their mothers during pregnancy are at risk for developing vision and nerve problems. Symptoms of omega-3,6,9 fatty acid deficiency include fatigue, poor memory, dry skin, heart problems, mood swings or depression, and poor circulation.

Nutrients Composition of LIQUIMEGA LIQUICAPS and Health Benefits

Flaxseed is well-known for the content of chemical compounds with specific biological activity and functional properties: polyunsaturated fatty acids (PUFA) omega-3 family, soluble dietary fibers, lignans, proteins and carbohydrates.

Omega-3 fatty acids in LIQUIMEGA LIQUICAPS and health benefits

Of all lipids in flaxseed (approximately 30%), 53% are α -linolenic acid (ALA), 17% linoleic acid (LA), 19% oleic acid (Figure 1), 3% stearic acid, and 5% palmitic acid, which provides an excellent n-6: n-3 fatty acid ratio of approximately 0.3:1 [1]. Therefore, the seed may be an alternative for supplying this fatty acid to populations concentrated in regions of the world where there is not large access to marine foods, which are the best sources of n-3 fatty acids [2].

The tissue's fatty acid composition is not homogeneous. The linolenic acid contents in embryos, testa, and endosperm are all higher than that in the embryo axis. ALA is classified as an omega-3 fatty acid, a group that also includes long-chain metabolites of ALA [3].

Researchers are investigating whether omega-3 fatty acids contained in flaxseed may help protect against certain infections and in treating conditions including ulcers, migraine headaches, attention deficit/hyperactivity disorder, eating disorders, preterm labor, emphysema, psoriasis, glaucoma, Lyme disease, lupus, and panic attacks [4], Dugani et

al. 2008 evaluated the anti-ulcer activity of the oil and mucilage obtained from flaxseed in a rat model of ethanol-induced gastric ulcer. Results indicated how the pre-treatment of rats with flaxseed oil and mucilage significantly reduced the number and length of gastric ulcers induced by ethanol. Even if flaxseed oil was found to have a higher capacity in reducing the number of ulcers, both flaxseed oil and mucilage were pointed to provide a cytoprotective effect against ethanol-induced gastric ulcers in rats [5]. Same results about antiulcer and anti-secretory properties of flaxseed oil were obtained by Kaitwash et al. 2010. The oil also exhibited significant inhibitory effect on gastric secretion/total acidity and on aspirin-induced gastric ulceration in rats [6]. Clark WF et al 2001 studied the influence of flaxseed fatty acids on lupus nephritis disease. Plasma lipids and serum viscosity were unaltered by the flaxseed supplementation whereas serum creatinine in the compliant patients declined. Flaxseed appeared to be reno-protective in lupus nephritis, but authors suggested that their interpretation was affected by under powering due to poor adherence of patients [7].

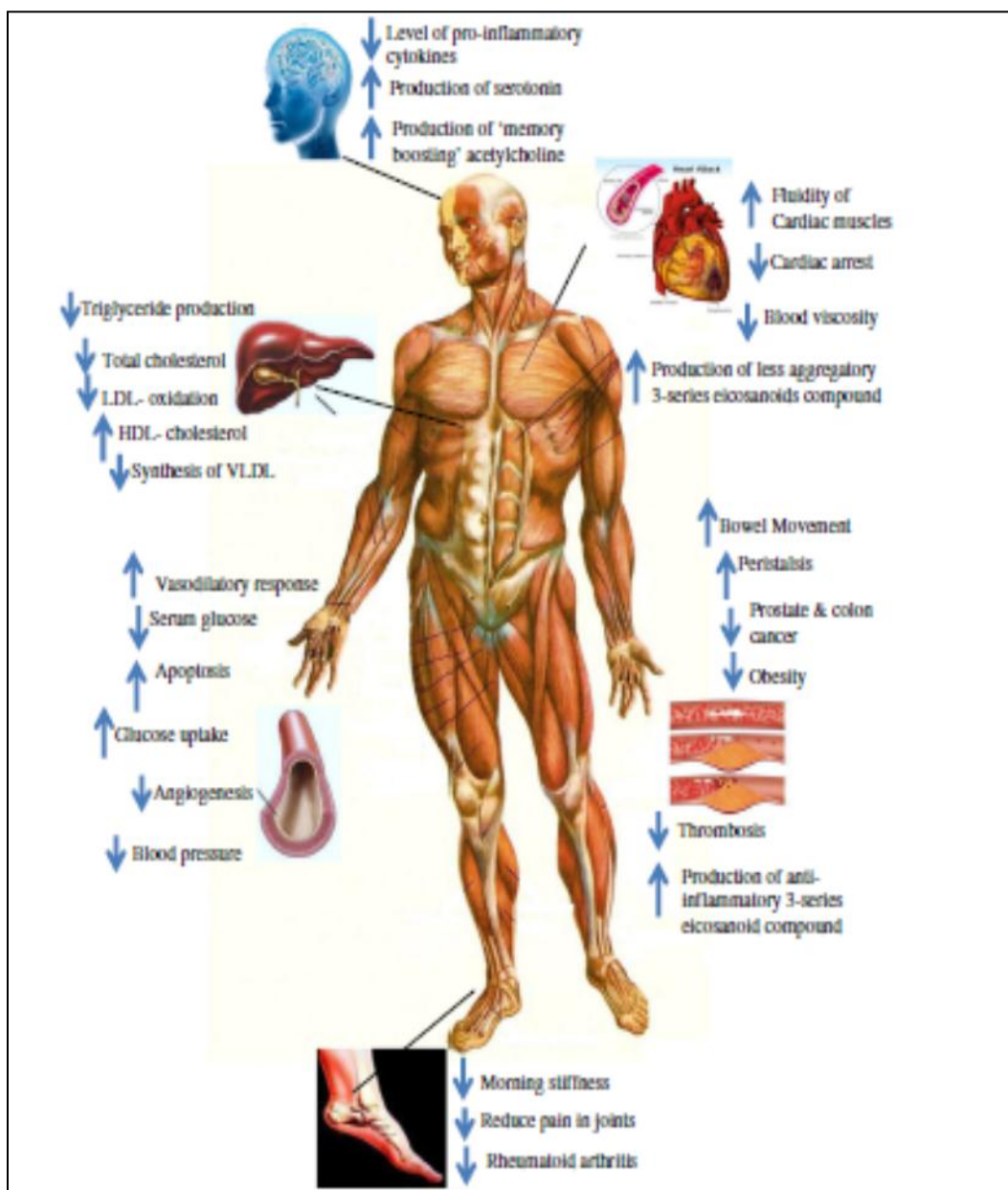
Dupasquier et al. 2007, investigated the anti-atherogenic capacity of flaxseed in an animal model that represents the human atherosclerotic condition. Supplementation of the cholesterol-enriched diet with ground flaxseed lowered plasma cholesterol and saturated fatty acids, increased plasma content of ALA and inhibited plaque formation in the aorta and aortic sinus compared with mice fed a diet supplemented with only dietary cholesterol. Authors demonstrated that dietary flaxseed can inhibit atherosclerosis through a reduction of circulating cholesterol levels and, at a cellular level, via anti-proliferative and anti-inflammatory actions [8].

Although direct studies on flaxseed and blood pressure are limited (and mostly confined to flaxseed oil versus ground flaxseed), numerous studies have shown the ability of increased omega-3 fatty acid intake to help regulate and reduce blood pressure in persons who have been diagnosed with hypertension. Furthermore, a diet low in saturated fats and rich in monounsaturated and polyunsaturated fats, including omega-3 fatty acids from flaxseed, can reduce heart disease. Preventing the occurrence of cardiovascular disease with nutritional interventions is a strategy that is widely focusing attention of researchers. Rodriguez-Leyva et al. 2010 analysing epidemiological investigations and experimental studies suggested that ALA intake from flaxseed has

been demonstrated to combat cardiovascular disease [9]. Caligiuri et al. 2014, focused on flaxseed consumption and blood pressure in patients with hypertension. The objective was to examine whether flaxseed consumption altered plasma oxylipins in a manner that influenced blood pressure. After the clinical trial, authors concluded that α -linolenic acid

in flaxseed may have inhibited soluble epoxide hydrolase, which altered oxylipin concentrations that contributed to the antihypertensive effects in patients with peripheral arterial disease [10]. Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA), derivatives of ALA, have cardioprotective properties.

Pharmacology



Therapeutic incentives of flaxseed oil

Prevents cancer

The goodness of omega 3 fatty acids in flaxseeds hinders the growth of cancer cell formation and its

development. Studies have proven that consuming oils rich in omega 3 fatty acids shields the body against breast cancer and prostate cancers. Flaxseeds with a plentiful amount of lignans exhibit antiangiogenic properties and stop tumour growth.

The lignans content in flaxseeds 800 times higher than any other foods. Moreover, adding flaxseed oil as part of a healthy diet regularly is valuable in averting the risk of various types of cancers.

Promotes heart health

Being essentially rich in both soluble and insoluble fibre, phytosterols and Omega 3 fatty acids flaxseed oil can greatly improve heart health and are one of the best foods that lower blood pressure. The richness of lignans lower triglycerides level, reduce inflammation and lowers the risk of cardiovascular disease and other chronic diseases. This, in turn, eases the flow of blood and other food substances via the tubular structures in the circulatory system – arteries and veins. Hence, the normal blood pressure range of 110/70 to 139/89 is maintained in the system. Furthermore, phytosterols play a key role in lowering LDL cholesterol and prevent the absorption of cholesterol in the intestine.

Regulates blood sugar

The presence of ample amounts of soluble and insoluble dietary fibre and lignans in flaxseeds decrease insulin resistance and lower the risk of prediabetes and stabilize blood sugar levels. Regular addition of flaxseeds in the diet remarkably improves insulin sensitivity, controls blood pressure and delayed the onset of type 2 diabetes mellitus.

Anti-inflammatory effects

The two vital nutrients lignans and alpha-linoleic acid (ALA) in flaxseeds possess powerful anti-inflammatory effects and lower inflammation associated with Parkinson's and asthma by blocking the secretions of pro-inflammatory agents. In addition, it also lowers the inflammation in the plaque buildup arteries i.e. atherosclerosis and averts the risk of heart disease and stroke.

Menopause health

Several studies have shown that flaxseed oil consumed twice daily remarkably lowered the intensity of hot flushes in women during menopause within two weeks. This is attributed to the presence of phytoestrogens which mimics the work of estrogen hormones and compensates for the loss of estrogen hormones during menopause and reduces other PMS symptoms.

Stimulates digestive health

The essence of soluble and insoluble fibre in flaxseed oil is attributed to act as a digestive aid. A serving of this seed oil provides 3 grams of fibre which meets 12% of dietary fibre allowance for normal adults. The richness of fibre increases the bulk and result in smooth passage of stools, thereby preventing constipation and also assists those with irritable bowel syndrome and diverticular disease.

Manages Weight

Flaxseed oil is rich in amino acids arginine, aspartic acid and glutamic acid. A teaspoon of oil provides helps to suppress the appetite, control unwanted hunger pangs, prevents from overeating, increases the feeling of fullness and thereby assists in shedding extra calories and fat.

Contraindication

Flaxseed oil is generally considered safe for adults when consumed in smaller amounts. However, adding too much of flaxseeds in the diet may cause gastrointestinal side effects like bloating, flatulence, abdominal pain, nausea, cramping, constipation and diarrhoea.

PHARMACOLOGICAL ACTION

Omega-3 fatty acids are considered as essential fatty acids: They are necessary for human health but the body can't make them. LIQUIMEGA LIQUICAPS contains *organic Flaxseed oil provides Omega-3,6 & 9 fatty Acids*.

Promotes cardiovascular health

- ❖ Promotes a healthy immune response
- ❖ Supports joint function and mobility
- ❖ Provides natural vitamin E & C, potent antioxidants
- ❖ Promotes healthy cognitive function
- ❖ Studies shows that during Pregnancy that Omega-3- fatty acids in LIQUIMEGA LIQUICAPS are required to prevent premature rupture of cervical membrane & thus prevents pre-term delivery. Improves brain development in fetus.
- ❖ LIQUIMEGA LIQUICAPS plays an important role in Heart health, Coronary heart disease, Arrhythmias
- ❖ Have a beneficial effect on heart rate, a major risk factor for sudden cardiac death

- ❖ Reduce risk of arrhythmia, a risk factor for sudden cardiac death
- ❖ Reduce triglyceride levels, which is an independent risk factor for coronary artery disease.
- ❖ Minimize the risk of angina, heart attack, and stroke

LIQUIMEGA LIQUICAPS helps minimize the symptoms of

- ❖ Depression
- ❖ Schizophrenia
- ❖ Developmental coordination disorder / dyspraxia
- ❖ Dementia
- ❖ Huntington disease

LIQUIMEGA liquicapshas a positive effect on Brain Cognitive Health & Development

- ❖ Normal development of the brain, retina (eyes), and nervous system of the fetus
- ❖ Cognitive development of infants
- ❖ Duration of gestation and infant size at birth
- ❖ Postpartum depression
- ❖ Alzheimer's disease

LIQUIMEGA liquicaps provides benefit as Anti-inflammatory joint Pain & in Digestion

- ❖ Reducing tender joints
- ❖ Reducing the duration of morning stiffness
- ❖ Alleviating symptoms for ulcerative colitis, an inflammatory bowel disease (IBD)
- ❖ DHA & EPA influence inflammatory balance.

In asthma

- ❖ Omega 3,6,9 fatty acids helps to promote respiratory health & lesser the effects of oxidative stress for patients who has Asthma.
- ❖ Low intake of omega 3,6,9 fatty acids had an increase risk of chronic bronchitis, wheezing & Asthma.

Indications

- ❖ **Promotes cardiovascular health**
- ❖ **Promotes a healthy immune response**
- ❖ **Supports joint function and mobility**
- ❖ **Potent antioxidants**
- ❖ **Promotes healthy cognitive function**
- ❖ Prevent premature rupture of cervical membrane & thus prevents pre-term delivery. Improves brain development in fetus.

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- ❖ Low intake of omega 3,6,9 fatty acids had an increase risk of chronic bronchitis, wheezing & Asthma.

Supplement facts

Presentation: LIQUICAPS

Usage

- ❖ Promotes cardiovascular health

- ❖ Promotes a healthy immune response
- ❖ Supports joint function and mobility
- ❖ potent antioxidants
- ❖ Promotes healthy cognitive function
- ❖ Prevent premature rupture of cervical membrane & thus prevents pre-term delivery. Improves brain development in fetus.

Contra-indications

This Product is contra-indicated in persons with Known hypersensitivity to any component of the product hypersensitivity to any component of the product.

Recommended usage

Adults: .1-2 liqui caps twice a day with water or liquid of choice twice daily

“Do not exceed the recommended daily dose”

Administration: Taken by oral route at anytime with food.

Precautions

Food Supplements must not be used as a substitute for a varied and balanced diet and a healthy lifestyle. Do not exceed the recommended daily dose.

Warnings

If you are taking any prescribed medication or has any medical conditions always consults doctor or healthcare practitioner before taking this supplement.

Side Effects: Very Mild side effects like nausea, headache and vomiting in some individuals may be observed.

Storage: Store in a cool, dry and dark place.

REFERENCES

- [1]. Harper CR, Edwards MJ, DeFilippis AP, Jacobson TA. Flaxseed oil increases the plasma concentrations of cardioprotective (n-3) fatty acids in humans. See comment in PubMed Commons below J Nutr. 136, 2006, 83-87.
- [2]. Dugani A, Auzzi A, Naas F, Megwez S. Effects of the oil and mucilage from flaxseed (*linum usitatissimum*) on gastric lesions induced by ethanol in rats. See comment in PubMed Commons below Libyan J Med. 3, 2008, 166-169.
- [3]. Kaithwas G, Majumdar DK. Evaluation of antiulcer and antisecretory potential of *Linum usitatissimum* fixed oil and possible mechanism of action. See comment in PubMed Commons below Inflammopharmacology. 18, 2010, 137-145.
- [4]. Clark WF, Kortas C, Heidenheim AP, Garland J, Spanner E, Parbtani A. Flaxseed in lupus nephritis: a two-year nonplacebo-controlled crossover study. See comment in PubMed Commons below J Am Coll Nutr. 20, 2001, 143-148.
- [5]. Dupasquier CM, Dibrov E, Kneesh AL, Cheung PK, Lee KG, Alexander HK, et al. Dietary flaxseed inhibits atherosclerosis in the LDL receptor-deficient mouse in part through antiproliferative and anti-inflammatory actions. See comment in PubMed Commons below Am J Physiol Heart Circ Physiol. 293, 2007, H2394-2402.
- [6]. Rodriguez-Leyva D, Dupasquier CM, McCullough R, Pierce GN. The cardiovascular effects of flaxseed and its omega-3 fatty acid, alpha-linolenic acid. See comment in PubMed Commons below Can J Cardiol. 26, 2010, 489-496.
- [7]. Caligiuri SP, Aukema HM, Ravandi A, Guzman R, Dibrov E, Pierce GN. Flaxseed consumption reduces blood pressure in patients with hypertension by altering circulating oxylipins via an α -linolenic acid-induced inhibition of soluble epoxide hydrolase. Hypertension. 64, 2014, 53-59.
- [8]. Rabetafika HN, Van Remoortel V, Danthine S, Paquot M, Blecker IC. Flaxseed proteins: food uses and health benefits. Int. J. Food Sci. Technol. 46, 2011, 221-228.
- [9]. Chung MWY, Lei B, Li-Chan ECY. Isolation and structural characterization of the major protein fraction from NorMar flaxseed (*Linum usitatissimum* L.). Food Chem. 90, 2005, 271-279.
- [10]. Oomah BD, Berekoff B, Li-Chan C, Mazza G, Kenaschuk E, Duguid S. Cadmium-binding protein components of flaxseed: Influence of cultivar and location. Food Chem. 100, 2007, 318-325.